

REMARKS

Amendments to the claims have been made to comply with the Examiner's concerns, to clarify aspects of the claims, and to refine claim language. The amendments are believed to be consistent with the disclosure originally filed. It should be understood that the amendments are presented as a matter of practicality to obtain initial aspects only. They should be understood as avoiding, any admission or estoppel, any prosecution history estoppel, and any limitation on the scope of equivalences, or the like. The Applicant amends all claims and adds new claims 174-184 to this application. Thus, claims 1, 2, 5-12, 16-29, and 165-184 remain in this application and are believed in a condition for allowance.

In the amendments, the Applicant has corrected claim 167 to correct certain grammatical and typographical errors contained therein. In addition, the Applicant has corrected dependency informalities by: amending claim 19 to depend from claim 1, amending claim 168 to depend from claim 18 or 174-184, amending claim 169 to depend from claim 1, amending claim 170 to depend from claim 1, amending claim 171 to depend from claim 170, amending claim 172 to depend from claim 171, and amending claim 173 to depend from claim 172. As to antecedent basis concerns, the Applicant has amended each of claim 26 and claim 27 to depend from both claim 16 and claim 24. It may be noted that the added claims, 174-184, are restatements of aspects from otherwise allowed or not rejected claims previously presented. Only initial dependencies are presented as multiply dependent claims (depending upon the nature of the anticipated allowance, it is anticipated that the full spectrum of dependencies will be added).

Substantively, the action expressed concern as to claims 1, 2, 5-9, 16-18, and 23-26, 28, and 166-167 under 35 U.S.C. § 103(a). The applicant respectfully disagrees that the cited references make these claims obvious. In general, a prima facie case of obviousness requires that the combination of references disclose all the limitations of the claimed invention. *In re Royka*, 490 F.2d 981 (CCPA 1974); MPEP § 2143; MPEP § 2143.03. Such a rejection is only appropriate where there is a reasonable expectation of

success. *See generally, In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) and *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976). As to the concern involving claim 1, the cited references do not present references from which a person of ordinary skill in the art would have a reasonable expectation of success. Specifically, the combined references do not teach achieving success levels comparable to a typical insemination dosage while using low numbers of separated sperm. Claim 1 as amended in element "e" recites "establishing an insemination sample having a low number of separated non-human sperm cells capable of fertilizing at least one egg within said female of said non-human species of said mammal *at success levels comparable to a typical insemination dosage*" (emphasis added). The present case is the first to achieve success levels comparable to a typical insemination dosage while using two techniques known to have a significant adverse impact on success levels: using low numbers of sperm cells and using separated sperm cells. It is known that separating sperm cells subjects the cells to stressful conditions that reduce their viability, which in turn reduces the success rate for inseminations using the separated cells. In fact, in experimentation conducted after the date of the Seidel 1995 reference, the author Seidel himself (perhaps the preeminent researcher in the field of sex sorted sperm cells) was unable to achieve success levels comparable to a typical insemination dosage by using low numbers of separated sperm. *See Seidel, G. "Uterine Horn Insemination of Heifers With Very Low Numbers of Nonfrozen and Sexed Spermatozoa", Atlantic Breeders Cooperative, Therio. 48: pp. 1255-1264, (1997) (cited in the IDS of June 30, 2000).* On these facts, a hypothetical inventor – who would be aware of both the inherently debilitating effects of using low numbers of separated sperm cells and the failure of one of the most prominent researchers in the field to achieve success – would not have had a reasonable expectation of success and would not have concluded that there would be a reasonable expectation of successfully achieving success levels comparable to a typical insemination dosage by using low numbers of separated sperm cells. Importantly, the first disclosure of using low numbers of separated sperm cells *and* achieving success levels comparable to a typical insemination dosage is made in the present case.

While the Applicant believes the foregoing arguments to be sufficient for

allowability of the rejected claims, the Applicant presents certain additional arguments as follows. With respect to claims 23, 26, and 166, the action questioned if it would have been obvious to stain sperm cells and provide a sheath fluid with the values stated; the Applicant respectfully disagrees that such values would have been obvious or a matter of routine experimentation. Of course, once traversed, it is improper to maintain an allegation unsupported by evidence. As the courts have long stated:

[W]e reject the notion that judicial or administrative notice may be taken of the state of the art. The facts constituting the state of the art are normally subject to the possibility of rational disagreement among reasonable men and are not amenable to the taking of such notice. If evidence of the knowledge possessed by those skilled in the art is to be properly considered, it must be timely injected into the proceedings.

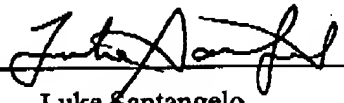
In re Eynde, 480 F.2d 1364 (CCPA 1973). Further, Examiners are even cautioned in their training materials against basing rejections on allegations of their personal impressions of what might be a design choice -- essentially what might be obvious. To maintain such allegations, evidence is necessary. With respect to Claim 23, the Applicant respectfully highlights that claim 23 recites "staining said sperm cells of said male of said species of mammal with at least about 38 *micro-molar concentration* of stain." (Emphasis added). As discussed in the specification at page 17, using higher amounts of stain than might be expected may achieve better results. To the point, the references do not disclose using such an amount. With respect to claim 26, the Applicant respectfully highlights that claim 26 recites "establishing a sheath fluid which contains about 2.9% *sodium citrate*." (Emphasis added). Again, the references do not disclose using such an amount in a sheath fluid. With respect to claim 166, the Applicant highlights that claims 166 recites "providing a citrate collection fluid containing about *six percent egg yolk* prior to commencing said step of collecting." (Emphasis added). As discussed in the specification at page 14, the addition of this particular amount of egg yolk is a value that provides a coordinated level of nutrient in collection fluids where an overall 2 percent egg yolk nutrient is desired. Again, the references do not disclose using such an amount in a collection fluid.

The action objected to claims 10-12, 27, 29, and 165 as being dependent upon a rejected base claim, but stated these claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. It also made no rejection of claims 169-172. The Applicant has added new claims 174-184 to this application, which correspond to claims 10-12, 27, 29, 165, and 169-172 written in independent form. Therefore, the Applicant respectfully requests allowance of claims 174-184.

The Applicant, having addressed each of the issues and concerns raised in the Office Action, respectfully requests reconsideration and withdrawal of the rejections and objections to the application. Allowance of claims 1, 2, 5-12, 16-29, and 165-184 is respectfully requested at the Examiner's earliest convenience.

Dated this 5th day of April, 2004.

Respectfully submitted,
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